

REMARKS

Claims 1-3, 5 and 7-14 are pending. By this Amendment, claim 1 is amended and claims 4 and 6 are canceled. Support for the amendments may be found, for example, in the claims as filed. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Rejections Under 35 U.S.C. §102

The Office Action rejects claims 1 and 4 under 35 U.S.C. §102(b) over U.S. Patent No. 6,268,395 to Hattori ("Hattori"). By this Amendment, claim 4 is canceled, thus the rejection is moot as to that claim. As to the remaining claim, Applicants respectfully traverse the rejection.

By this Amendment, claim 1 recites, *inter alia*, "wherein R₁ is a group of -(CH₂)_aX(CH₂)_bCH₃ wherein X is O or S, a is a number of 1 to 3, and b is a number of 0 to 5, a group of -(CH₂)_cX(CH₂)_dYCH₃ wherein X and Y are O or S, c is a number of 1 to 3, and d is a number of 1 to 5, or a group of -(CH₂)_fCH₃ wherein f is a number of 0 to 5." Hattori fails to disclose the compound as recited in claim 1.

The Office Action asserts that Hattori discloses a phorbol-derivative anti-HIV composition wherein R₁ is -CO(CH₂)_eCH₃, where e is 0, R₂ is -CO(CH₂)_nCH₃, wherein n is 8, and R₃, R₄, and R₅ are -H. However, Applicants respectfully assert that amended claim 1 does not read on this disclosure of Hattori. Specifically, Hattori discloses that R₁ is a hydrogen atom or a carboxylic acid residue. See Hattori, col. 2, lines 15-17. However, by this Amendment, R₁ of amended claim 1 is either -(CH₂)_aX(CH₂)_bCH₃, -(CH₂)_cX(CH₂)_dYCH₃, or -(CH₂)_fCH₃. Thus, Hattori fails to disclose the R₁ group as recited in claim 1. Therefore, Hattori fails to disclose each and every feature of amended claim 1.

For at least the reasons stated above, claim 1 is not anticipated by Hattori.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejections Under 35 U.S.C. §103

A. Hattori

The Office Action rejects claims 2, 3 and 5 under 35 U.S.C. §103(a) over Hattori.

Applicants respectfully traverse the rejection.

The Office Action, on page 5, acknowledges that Hattori does not disclose that R₁ should be selected from the groups as recited in claims 2, 3 and 5. The Office Action further asserts that the difference between compound 6 as disclosed in Hattori, column 8, Table 2 and the compounds recited in claims 2, 3 and 5 is that the Hattori compound discloses a derivative of the claimed formula 1 wherein R₁ is either H or an ester, and claims 2, 3 and 5 recite that R₁ should be an ether, thioether, diether, dithioether, or an alkyl group. However, the Office Action asserts that alkyl groups, esters and ethers are known to be protective groups and, thus, are obvious variants of each other. Therefore, the Office Action concludes that it would have been obvious to one of ordinary skill in the art to have modified compound 6 of Hattori by substituting the derivatives as recited in claims 2, 3 and 5 for R₁ in compound 6 of Hattori, because it would have been obvious to one of ordinary skill in the art to substitute one protective group for another. Applicants disagree.

Applicants respectfully assert that the Office Action has not met the requisite burden for showing *prima facie* obviousness regarding the substitution of the claimed derivatives in place of the R₁ esters disclosed in Hattori. It is established that "in order to rely on equivalents as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on Applicants' disclosure or the mere fact that the components at issue are functional or mechanical equivalents." See MPEP §2144.06(II) (emphasis added), see also, *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). The

Hattori reference is silent as to the use of protective groups and, thus, does not disclose, teach or suggest that esters, alkyl groups or ethers are protective groups. Therefore, the applied reference does not disclose that esters, alkyl groups or ethers are known to be protective groups. Consequently, the Office Action has not met the burden required to show a prima facie case of obviousness.

Further, the instant specification merely recites that a protective group "L" may be used as an intermediary in the formation of the claimed compound. See, for example, specification, page 6. Therefore, even if it were shown in any references that esters, alkyl groups and ethers are all protective groups, neither the present specification nor Hattori recite or disclose that R_1 is to be a protective group. Thus, it would not have been obvious to one of ordinary skill in the art to have replaced the R_1 of the Hattori compound with the claimed R_1 groups at least because neither Hattori nor the instant specification disclose or recite that R_1 can or should be a protective group and, thus, Hattori provides no reason or rationale for one of ordinary skill in the art to have modified the Hattori reference as suggested in the Office Action. Accordingly, Hattori fails to teach or suggest each and every feature of amended claim 1.

Additionally, ethers, esters and alkyl groups have significantly differing chemical formulas and properties and, thus, one of ordinary skill in the art would have expected the use of these differing formulas to have different impacts on the base molecule represented by formula (III) of Hattori. Specifically, Hattori provides no reason or rationale for one of ordinary skill in the art to have had a reasonable expectation of success if the R_1 derivative of Hattori formula (III), which is disclosed to be a hydrogen or carboxylic acid residue, were to be replaced with the R_1 groups as recited in amended claim 1. Hattori discloses that the use of different esters will have differing effects depending on the structure of the entire molecule, including the type of ester used. For example, Hattori discloses, "these findings

suggested that the difference among tumor promoting, antitumor and anti-HIV-1 effects of an ester is associated with a specific structure of the entire molecule, and that particular structural features are necessary for phorbol esters to provoke these diverse effects." Hattori, col. 3, lines 58-63. Hattori further discloses, "the present inventor has isolated 8 phorbol diesters and carried out structural modifications of the isolated compounds." Hattori, col. 4, lines 7-9. Therefore, as is shown by at least these quotations of Hattori, utilizing different esters will alter the effectiveness of the overall molecules as anti-HIV agents. Thus, at least because Hattori discloses that using different esters will provide different effectiveness of the overall molecule, Hattori does not provide any reason or rationale for one of ordinary skill in the art to have expected that changing the R₁ ester of Hattori to an ether or an alkyl group would have resulted in a compound with effective anti-HIV features. Thus, it would not have been obvious to one of ordinary skill in the art to have modified Hattori as suggest in the Office Action to yield the claimed invention. Accordingly, Hattori fails to teach or suggest each and every feature of the claimed invention.

For at least the reasons stated above, claims 2, 3 and 5 would not have been rendered obvious by Hattori. Further, it is respectfully asserted that for at least the above reasons, amended claim 1 likewise would not have been rendered obvious over Hattori. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Hattori and Raffanti

The Office Action rejects claims 7-14 under 35 U.S.C. §103(a) over Hattori as applied to claim 1 and further in view of Raffanti and Haas (Goodman & Gilman's, The Pharmaceutical Basis of Therapeutics, 2001) ("Raffanti"). Applicants respectfully traverse the rejection.

For at least the reasons stated above, Hattori fails to teach or suggest each and every feature of amended claim 1. Further, Raffanti is not applied to address the discrepancies of

Hattori as to amended claim 1. Therefore, Hattori and Raffanti, individually or in combination, fail to teach or suggest each and every feature of amended claim 1.

Claim 1 would not have been rendered obvious by Hattori and Raffanti, individually or in combination. Claims 7-14 variously depend from claim 1 and, thus, also would not have been rendered obvious by Hattori and Raffanti, individually or in combination. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



James A. Oliff
Registration No. 27,075

Nicolas A. Brentlinger
Registration No. 62,211

JAO:NAB/rle

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OLIFF & BERRIDGE, PLC
P.O. Box 320850
Alexandria, Virginia 22320-4850
Telephone: (703) 836-6400

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